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PATENT APPLICATION US/09/060,294ADATE: 08/19/1999  
TIME: 17:40:33

INPUT SET: S32973.raw

This Raw Listing contains the General Information Section and up to the first 5 pages.
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## SEQUENCE LISTING

ENTERED

1  
2  
3 (1) General Information:  
4  
5 (i) APPLICANT: Martin Roland Jensen  
6 Soren Mouritsen  
7 Henrik Elsner  
8 Iben Dalum  
9  
10 (ii) TITLE OF INVENTION: Modified human TNF-alpha molecules, DNA  
11 encoding them, and vaccines containing said modified  
12 TNF-alpha or DNA  
13  
14 (iii) NUMBER OF SEQUENCES: 42  
15  
16 (iv) CORRESPONDENCE ADDRESS:  
17 (A) ADDRESSEE: JACOBSON, PRICE, HOLMAN & STERN  
18 (B) STREET: 400 Seventh St., N.W.  
19 (C) CITY: Washington, DC  
20 (E) COUNTRY: USA  
21 (F) ZIP: 20004  
22  
23 (v) COMPUTER READABLE FORM:  
24 (A) MEDIUM TYPE: Floppy disk  
25 (B) COMPUTER: IBM PC compatible  
26 (C) OPERATING SYSTEM: PC-DOS/MS-DOS  
27 (D) SOFTWARE: PatentIn Release #1.0, Version #1.30 (EPO)  
28  
29 (vi) CURRENT APPLICATION DATA:  
30 (A) APPLICATION NUMBER: 09/060,294  
31 (B) FILING DATE: 15-APR-1998  
32  
33 (vii) PRIOR APPLICATION DATA:  
34 (A) APPLICATION NUMBER: 60/044,187  
35 (B) FILING DATE: 24-APR-1997  
36  
37 (viii) ATTORNEY/AGENT INFORMATION:  
38 (A) NAME: Price, D. Douglas  
39 (B) REGISTRATION NUMBER: 24,514  
40 (C) REFERENCE/DOCKET NUMBER: P60953US1  
41  
42 (ix) TELECOMMUNICATION INFORMATION:  
43 (A) TELEPHONE: (202) 638-6666  
44 (B) TELEFAX: (202) 393-5350  
45  
46 (2) INFORMATION FOR SEQ ID NO: 1:

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/060,294A

DATE: 08/19/1999  
TIME: 17:40:33

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47
48      (i) SEQUENCE CHARACTERISTICS:
49          (A) LENGTH: 474 base pairs
50          (B) TYPE: nucleic acid
51          (C) STRANDEDNESS: double
52          (D) TOPOLOGY: linear
53
54      (ii) MOLECULE TYPE: cDNA
55
56      (iii) HYPOTHETICAL: NO
57
58      (iv) ANTI-SENSE: NO
59
60      (vi) ORIGINAL SOURCE:
61          (A) ORGANISM: Homo sapiens
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63      (ix) FEATURE:
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65          (B) LOCATION:1..474
66          (C) IDENTIFICATION METHOD: experimental
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69              /product= "TNF-alpha analog"
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72              /standard_name= "TNF2-1"
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80      TCT AAA TTC ATC GGT ATA ACT GAG CTG CAG CTC CAG TGG CTG AAC CGC      96
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82          20              25              30
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84      CGG GCC AAT GCC CTC CTG GCC AAT GGC GTG GAG CTG AGA GAT AAC CAG      144
85      Arg Ala Asn Ala Leu Leu Ala Asn Gly Val Glu Leu Arg Asp Asn Gln
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88      CTG GTG GTG CCA TCA GAG GGC CTG TAC CTC ATC TAC TCC CAG GTC CTC      192
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92      TTC AAG GGC CAA GGC TGC CCC TCC ACC CAT GTG CTC CTC ACC CAC ACC      240
93      Phe Lys Gly Gln Gly Cys Pro Ser Thr His Val Leu Leu Thr His Thr
94          65              70              75              80
95
96      ATC AGC CGC ATC GCC GTC TCC TAC CAG ACC AAG GTC AAC CTC CTC TCT      288
97      Ile Ser Arg Ile Ala Val Ser Tyr Gln Thr Lys Val Asn Leu Leu Ser
98          85              90              95
99

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100  GCC ATC AAG AGC CCC TGC CAG AGG GAG ACC CCA GAG GGG GCT GAG GCC      336
101  Ala Ile Lys Ser Pro Cys Gln Arg Glu Thr Pro Glu Gly Ala Glu Ala
102              100              105              110
103
104  AAG CCC TGG TAT GAG CCC ATC TAT CTG GGA GGG GTC TTC CAG CTG GAG      384
105  Lys Pro Trp Tyr Glu Pro Ile Tyr Leu Gly Gly Val Phe Gln Leu Glu
106              115              120              125
107
108  AAG GGT GAC CGA CTC AGC GCT GAG ATC AAT CGG CCC GAC TAT CTC GAC      432
109  Lys Gly Asp Arg Leu Ser Ala Glu Ile Asn Arg Pro Asp Tyr Leu Asp
110              130              135              140
111
112  TTT GCC GAG TCT GGG CAG GTC TAC TTT GGG ATC ATT GCC CTC      474
113  Phe Ala Glu Ser Gly Gln Val Tyr Phe Gly Ile Ile Ala Leu
114  145              150              155
115
116
117  (2) INFORMATION FOR SEQ ID NO: 2:
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119      (i) SEQUENCE CHARACTERISTICS:
120          (A) LENGTH: 158 amino acids
121          (B) TYPE: amino acid
122          (D) TOPOLOGY: linear
123
124      (ii) MOLECULE TYPE: protein
125
126      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:
127
128  Met Val Arg Ser Ser Ser Arg Thr Pro Ser Gln Tyr Ile Lys Ala Asn
129    1              5              10              15
130
131  Ser Lys Phe Ile Gly Ile Thr Glu Leu Gln Leu Gln Trp Leu Asn Arg
132              20              25              30
133
134  Arg Ala Asn Ala Leu Leu Ala Asn Gly Val Glu Leu Arg Asp Asn Gln
135              35              40              45
136
137  Leu Val Val Pro Ser Glu Gly Leu Tyr Leu Ile Tyr Ser Gln Val Leu
138              50              55              60
139
140  Phe Lys Gly Gln Gly Cys Pro Ser Thr His Val Leu Leu Thr His Thr
141              65              70              75              80
142
143  Ile Ser Arg Ile Ala Val Ser Tyr Gln Thr Lys Val Asn Leu Leu Ser
144              85              90              95
145
146  Ala Ile Lys Ser Pro Cys Gln Arg Glu Thr Pro Glu Gly Ala Glu Ala
147              100              105              110
148
149  Lys Pro Trp Tyr Glu Pro Ile Tyr Leu Gly Gly Val Phe Gln Leu Glu
150              115              120              125
151
152  Lys Gly Asp Arg Leu Ser Ala Glu Ile Asn Arg Pro Asp Tyr Leu Asp

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# RAW SEQUENCE LISTING PATENT APPLICATION US/09/060,294A

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153          130          135          140
154
155 Phe Ala Glu Ser Gly Gln Val Tyr Phe Gly Ile Ile Ala Leu
156 145          150          155
157
158
159 (2) INFORMATION FOR SEQ ID NO: 3:
160
161 (i) SEQUENCE CHARACTERISTICS:
162 (A) LENGTH: 474 base pairs
163 (B) TYPE: nucleic acid
164 (C) STRANDEDNESS: double
165 (D) TOPOLOGY: linear
166
167 (ii) MOLECULE TYPE: DNA (genomic)
168
169 (iii) HYPOTHETICAL: NO
170
171 (iv) ANTI-SENSE: NO
172
173 (vi) ORIGINAL SOURCE:
174 (A) ORGANISM: Homo sapiens
175
176 (ix) FEATURE:
177 (A) NAME/KEY: CDS
178 (B) LOCATION:1..474
179 (D) OTHER INFORMATION:/codon_start= 1
180 /function= "Antigen"
181 /product= "TNF-alpha analog"
182 /gene= "tnfP2-3"
183 /standard_name= "TNF2-3"
184
185 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:
186
187 ATG GTC AGA TCA TCT TCT CGA ACC CCG AGT GAC AAG CCT GTA GCC CAT 48
188 Met Val Arg Ser Ser Ser Arg Thr Pro Ser Asp Lys Pro Val Ala His
189 160          165          170          175
190
191 GTT GTA GCA AAC CCT CAA GCT GAG GGG CAG CTC CAG TGG CTG AAC CGC 96
192 Val Val Ala Asn Pro Gln Ala Glu Gly Gln Leu Gln Trp Leu Asn Arg
193          180          185          190
194
195 CGG GCC AAT GCC CTC CTG GCC AAT GGC GTG GAG CTG AGA GAT AAC CAG 144
196 Arg Ala Asn Ala Leu Leu Ala Asn Gly Val Glu Leu Arg Asp Asn Gln
197          195          200          205
198
199 CTG GTG GTG CCA TCA GAG GGC CTG TAC CTC ATC TAC TCC CAG GTC CTC 192
200 Leu Val Val Pro Ser Glu Gly Leu Tyr Leu Ile Tyr Ser Gln Val Leu
201          210          215          220
202
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204 Phe Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile Thr Glu Leu
205          225          230          235

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DATE: 08/19/1999  
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208 Ile Ser Arg Ile Ala Val Ser Tyr Gln Thr Lys Val Asn Leu Leu Ser
209 240      245      250      255
210
211 GCC ATC AAG AGC CCC TGC CAG AGG GAG ACC CCA GAG GGG GCT GAG GCC      336
212 Ala Ile Lys Ser Pro Cys Gln Arg Glu Thr Pro Glu Gly Ala Glu Ala
213      260      265      270
214
215 AAG CCC TGG TAT GAG CCC ATC TAT CTG GGA GGG GTC TTC CAG CTG GAG      384
216 Lys Pro Trp Tyr Glu Pro Ile Tyr Leu Gly Gly Val Phe Gln Leu Glu
217      275      280      285
218
219 AAG GGT GAC CGA CTC AGC GCT GAG ATC AAT CGG CCC GAC TAT CTC GAC      432
220 Lys Gly Asp Arg Leu Ser Ala Glu Ile Asn Arg Pro Asp Tyr Leu Asp
221      290      295      300
222
223 TTT GCC GAG TCT GGG CAG GTC TAC TTT GGG ATC ATT GCC CTC      474
224 Phe Ala Glu Ser Gly Gln Val Tyr Phe Gly Ile Ile Ala Leu
225      305      310      315
226
227
228 (2) INFORMATION FOR SEQ ID NO: 4:
229
230 (i) SEQUENCE CHARACTERISTICS:
231 (A) LENGTH: 158 amino acids
232 (B) TYPE: amino acid
233 (D) TOPOLOGY: linear
234
235 (ii) MOLECULE TYPE: protein
236
237 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:
238
239 Met Val Arg Ser Ser Ser Arg Thr Pro Ser Asp Lys Pro Val Ala His
240 1      5      10      15
241
242 Val Val Ala Asn Pro Gln Ala Glu Gly Gln Leu Gln Trp Leu Asn Arg
243      20      25      30
244
245 Arg Ala Asn Ala Leu Leu Ala Asn Gly Val Glu Leu Arg Asp Asn Gln
246      35      40      45
247
248 Leu Val Val Pro Ser Glu Gly Leu Tyr Leu Ile Tyr Ser Gln Val Leu
249      50      55      60
250
251 Phe Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile Thr Glu Leu
252      65      70      75      80
253
254 Ile Ser Arg Ile Ala Val Ser Tyr Gln Thr Lys Val Asn Leu Leu Ser
255      85      90      95
256
257 Ala Ile Lys Ser Pro Cys Gln Arg Glu Thr Pro Glu Gly Ala Glu Ala
258      100      105      110

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PATENT APPLICATION US/09/060,294A

DATE: 08/19/1999

TIME: 17:40:35

INPUT SET: S32973.raw

## \*\*\*\*\* PREVIOUSLY ERRORED SEQUENCES - EDITED \*\*\*\*\*

228 (2) INFORMATION FOR SEQ ID NO: 4:

229

230 (i) SEQUENCE CHARACTERISTICS:

231 (A) LENGTH: 158 amino acids

232 (B) TYPE: amino acid

233 (D) TOPOLOGY: linear

234

235 (ii) MOLECULE TYPE: protein

236

237 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:

238

239 Met Val Arg Ser Ser Ser Arg Thr Pro Ser Asp Lys Pro Val Ala His

240 1 5 10 15

241

242 Val Val Ala Asn Pro Gln Ala Glu Gly Gln Leu Gln Trp Leu Asn Arg

243 20 25 30

244

245 Arg Ala Asn Ala Leu Leu Ala Asn Gly Val Glu Leu Arg Asp Asn Gln

246 35 40 45

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248 Leu Val Val Pro Ser Glu Gly Leu Tyr Leu Ile Tyr Ser Gln Val Leu

249 50 55 60

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251 Phe Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile Thr Glu Leu

252 65 70 75 80

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254 Ile Ser Arg Ile Ala Val Ser Tyr Gln Thr Lys Val Asn Leu Leu Ser

255 85 90 95

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257 Ala Ile Lys Ser Pro Cys Gln Arg Glu Thr Pro Glu Gly Ala Glu Ala

258 100 105 110

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260 Lys Pro Trp Tyr Glu Pro Ile Tyr Leu Gly Gly Val Phe Gln Leu Glu

261 115 120 125

262

263 Lys Gly Asp Arg Leu Ser Ala Glu Ile Asn Arg Pro Asp Tyr Leu Asp

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265

266 Phe Ala Glu Ser Gly Gln Val Tyr Phe Gly Ile Ile Ala Leu

267 145 150 155

268

269

PAGE: 1

**SEQUENCE VERIFICATION REPORT**  
**PATENT APPLICATION US/09/060,294A**

DATE: 08/19/1999  
TIME: 17:40:35

***INPUT SET: S32973.raw***

Line

Error

Original Text

RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/060,294ADATE: 08/18/1999  
TIME: 10:30:40

INPUT SET: S32973.raw

This Raw Listing contains the General  
Information Section and those Sequences  
containing ERRORS.

## SEQUENCE LISTING

## (1) General Information:

(i) APPLICANT: Martin Roland Jensen  
Soren Mouritsen  
Henrik Elsner  
Iben Dalum

(ii) TITLE OF INVENTION: Modified human TNF-alpha molecules, DNA  
encoding them, and vaccines containing said modified  
TNF-alpha or DNA

(iii) NUMBER OF SEQUENCES: 42

## (iv) CORRESPONDENCE ADDRESS:

(A) ADDRESSEE: JACOBSON, PRICE, HOLMAN & STERN  
(B) STREET: 400 Seventh St., N.W.  
(C) CITY: Washington, DC  
(E) COUNTRY: USA  
(F) ~~POSTAL CODE~~ (ZIP): 20004

## (v) COMPUTER READABLE FORM:

(A) MEDIUM TYPE: Floppy disk  
(B) COMPUTER: IBM PC compatible  
(C) OPERATING SYSTEM: PC-DOS/MS-DOS  
(D) SOFTWARE: PatentIn Release #1.0, Version #1.30 (EPO)

## (vi) CURRENT APPLICATION DATA:

(A) APPLICATION NUMBER: 09/060,294  
(B) FILING DATE: 15-APR-1998

## (vii) PRIOR APPLICATION DATA:

(A) APPLICATION NUMBER: 60/044,187  
(B) FILING DATE: 24-APR-1997

## (viii) ATTORNEY/AGENT INFORMATION:

(A) NAME: Price, D. Douglas  
(B) REGISTRATION NUMBER: 24,514  
(C) REFERENCE/DOCKET NUMBER: P60953US1

## (ix) TELECOMMUNICATION INFORMATION:

(A) TELEPHONE: (202) 638-6666  
(B) TELEFAX: (202) 393-5350

Does Not Comply  
Corrected Diskette Needed

--&gt;



INPUT SET: S32973.raw

## ERRORED SEQUENCES FOLLOW:

228 (2) INFORMATION FOR SEQ ID NO: 4:  
229  
230 (i) SEQUENCE CHARACTERISTICS:  
231 (A) LENGTH: 158 amino acids  
232 (B) TYPE: amino acid  
233 (v) TOPOLOGY: linear  
234  
235 (ii) MOLECULE TYPE: protein  
236  
--> 237 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:  
238  
239 Met Val Arg Ser Ser Ser Arg Thr Pro Ser Asp Lys Pro Val Ala His  
240 1 5 10 15  
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242 Val Val Ala Asn Pro Gln Ala Glu Gly Gln Leu Gln Trp Leu Asn Arg  
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251 Phe Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile Thr Glu Leu  
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254 Ile Ser Arg Ile Ala Val Ser Tyr Gln Thr Lys Val Asn Leu Leu Ser  
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**SEQUENCE VERIFICATION REPORT**  
**PATENT APPLICATION US/09/060,294A**DATE: 08/18/1999  
TIME: 10:30:41***INPUT SET: S32973.raw***

Line	Error	Original Text
21	Unknown or Misplaced Identifier	(F) POSTAL CODE (ZIP): 20004
237	Wrong or Missing Sequence Topology	(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4: